

REPORTERS NOTEBOOK

Thousands attend Sean Collier memorial service

Day of reflection over private service for MIT and law enforcement held at Briggs Field



By Bruno B.F. Faviero
NEWS EDITOR

On Wednesday, MIT cancelled classes for the fourth time this academic year. This time, however, it was not for a natural disaster or terror threat, but for a memorial — a celebration of the life of Officer Sean A. Collier.

Collier was a 27-year-old MIT police officer who had been on the force for fifteen months before he was slain in cold blood by one of the Tsarnaev brothers, suspects in the Boston Marathon bombing,

last Thursday night.

For his memorial, 15,000 chairs had been laid out on Briggs Field between the hours of 11 p.m. Tuesday and 3 a.m. Wednesday. By noon Wednesday, most were filled, around three-fifths by police officers — a sea of all shades of blue, green, and the occasional red worn proudly by officers from as close as Waltham and Medford, or from nearby states like Maine and New Hampshire, and from as far away as Australia and San Diego, according to Andrew Farrell '12.

The other part of the audience

was filled with people from all reaches of the MIT community that had come to pay respects to Collier.

The event opened with performances from the MIT Symphony Orchestra (MITSO), and pipe bands from the Irish American Police Officers Association (IAPOA) and Westford. After the opening, which included placing Sean's coffin at the foot of the stage, Israel Ruiz SM '01, MIT's Executive VP and Treasurer, spoke of the "darkening of the brightness" that had been Sean Collier's presence on

campus.

MIT Police Chief John DiFava recounted the events of last Thursday night. He was pulling out of Stata around 9:30 p.m. and saw a cruiser idling, which turned out to be Collier. "I asked him what was going on, and he gave me that famous grin," said DiFava, "and said 'just making sure everybody's behaving, sir.'" An hour later, Collier would be shot.

DiFava also spoke about all of Collier's qualities, stories of which have been pouring from the community this week: He was a gentle

and caring man, and police work was his calling. Sean wanted to be a police officer from the age of 7, said DiFava, and paid his way through the police academy with no promise of employment, waiting for a department with an opening. "That lucky department would be us."

He went on to say that Collier would regularly go beyond his responsibilities, requesting to work at a soup kitchen to "maybe deal with issues before they became

Memorial, Page 9

TIFFANY IRA HUANG—THE TECH

The thousands of law enforcement officers present at fallen MIT police officer Sean Collier's memorial were seated Wednesday morning before a majority of MIT community members arrived at Briggs Field.

Over 3K attending SpringFest concert with Macklemore tonight

MIT is gearing up for its highest attended Spring concert in recent memory, according to UA Events Committee members Daniela M. Yuschenkoff '14 and Lindsey C. Osimiri '14.

Overall, 3,750 tickets were sold to the Macklemore & Ryan

Lewis concert, with opening act Ra Ra Riot. Tickets were sold out the day general sale tickets opened on March 8, the UA Events Committee announced on Facebook.

SpringFest, Page 9

Graduate alumni survey published

How do graduate alumni feel about their Institute experience?

By Tamanna Islam Urmi

If you're a graduate student, how do you think you'll view your MIT experience once you graduate? In order to get the answers to questions, like how worthy the degree has actually turned out to be in real life, how satisfied the graduates are, and what is the range of salary a MIT graduate receives, MIT's Office of the Dean for Graduate Education has surveyed alumni who graduated in 1987, 1988, 1992, 1993, 1997, 1998, 2002, 2003, 2007, and 2008. Among the 15,806 total graduate alumni, 3,692 responded, giving an overall response rate of 31 percent for Doctoral Alumni and 20 percent for MBA and other Master's Alumni.

How satisfied were they with their MIT experience?

The general level of satisfaction was found to be slightly higher among the MBA alumni compared

to others. 69 percent of doctoral alumni, 83 percent of MBA alumni and 70 percent of alumni having oth-

er Master's degrees indicated they

Alumni, Page 17

Innovation and entrepreneurship of MIT grad school alumni

40% of MIT Sloan alumni have **started companies**
(so have 21% of PhD alumni and 29% of Master's alumni)

of these entrepreneurs...

70% do so within 5 years of graduation
43% start more than one company

41% of MIT PhD alumni have a **patent or invention**
(so do 21% of MBA alumni and 29% of Master's alumni)

INFOGRAPHIC BY CONNOR KIRSCHBAUM

Dining

On Bon Appétit, Meal plans, and the future of MIT residential food



See page 11 for
The Tech's look at
residential dining

A DINING CONVERSATION

Regular discussion about dining can address immediate concerns.

OPINION, p. 4

A HEARTFELT THANK YOU TO THE MIT COMMUNITY

MIT Chief of Police John DiFava and President L. Rafael Reif reflect on the loss of Officer Sean Collier and the outpour of support. LETTERS, p. 4



IN MEMORIAM: OFFICER SEAN COLLIER

Thousands honored fallen officer at Wednesday's Sean Collier Memorial.

PHOTO, p. 10

TO THE WONDER: LOVE, LOSS, FAITH

Minimal storyline, but full of beautifully-framed shots.

ARTS, p. 21

SECTIONS

World & Nation . . . 2
Opinion 4
Fun Pages 5
Dining Special . . . 11
Arts 20
Sports 24

UN Security Council votes to deploy peacekeepers in Mali

By Neil MacFarquhar
THE NEW YORK TIMES

UNITED NATIONS — Despite qualms about embroiling peace-keeping troops in the global fight against Islamist extremists, the U.N. Security Council voted Thursday to establish a force for Mali, where militants controlled much of the north until France intervened in January.

The U.N. force, to be composed of 11,200 soldiers and 1,440 police officers, is due to deploy July 1 to stabilize the nation, on the condition that the fight between the French-led troops, who are supporting the Malian government, and the retreating militants remains low-key.

“We know it is going to be a fairly volatile environment,” Herve Ladous, the head of peacekeeping for the United Nations, said after the 15-0 vote in the Council.

The resolution specifies that French troops, which deployed in January to push the Islamist militants out of the north, will intervene again should the peacekeeping

forces face an “imminent and serious threat.”

Russia expressed concerns that the U.N. blue helmets, as the peace-keeping soldiers are known because of their distinctive head gear, are moving away from their traditional role of monitoring cease-fires to more aggressive tasks.

“We are especially alarmed by the growing shift towards the force aspects of U.N. peacekeeping,” Vitaly I. Churkin, the Russian envoy, told the council, referring to a rapid-reaction force already approved to go on the offensive in the Democratic Republic of Congo. “What was the exception before now risks becoming the standard practice.”

Involving peacekeeping troops in a civil war would have “unpredictable and unclear consequences” for the safety of all U.N. personnel, he said.

The mandate for the force, called the Multidimensional Integrated Stabilization Mission in Mali, says it will be deployed to help establish stability and, along with a European training mission, to resurrect the Malian armed forces. That would

allow a political dialogue between various factions to proceed and the government in Bamako to re-establish its authority throughout the country.

The north has long been home to a Tuareg separatist movement. But Islamist militants, fueled by men and materiel flowing into Mali from Libya after the government of Moammar Gadhafi collapsed, captured much of the north early last year. A military coup in Bamako compounded Mali’s problems, toppling a democracy and creating a chaos the militants could exploit.

The separatists made a bold push in January toward Bamako, the capital, but the French military intervention drove them out of the main cities and into retreat in the desert.

“Small cells of armed terrorists and rebels continue to represent a threat to stability,” Tieman Coulibaly, Mali’s foreign minister, told the council Thursday.

Mali’s requests for foreign intervention in recent months have won over governments skeptical about sending peacekeeping forces.

Cancer physicians attack high drug costs

By Andrew Pollack
THE NEW YORK TIMES

With the cost of some lifesaving cancer drugs exceeding \$100,000 a year, more than 100 influential cancer specialists from around the world have taken the unusual step of banding together in hopes of persuading some leading pharmaceutical companies to bring prices down.

Prices for cancer drugs have been part of the debate over health care costs for several years and recently led to a public protest by doctors at a major cancer center in New York.

But the decision by so many specialists, from more than 15 countries on five continents, to join the effort is a sign that doctors, who are on the front lines of caring for patients, are taking a more active role in resisting high prices.

In this case, some of the specialists include researchers with

close ties to the pharmaceutical industry.

The doctors and researchers, who specialize in the potentially deadly blood cancer chronic myeloid leukemia, contend in a commentary published online by a medical journal Thursday that the prices of drugs used to treat that disease are astronomical, unsustainable and perhaps even immoral.

They suggested that charging a high price for a medicine needed to keep someone alive is profiteering, akin to jacking up the prices of essential goods after a natural disaster.

“Advocating for lower drug prices is a necessity to save the lives of patients” who cannot afford the medicines, they wrote in *Blood*, the journal of the American Society of Hematology.

While noting that the drugs used to treat many other cancers are just as costly, the doctors focused on what they know best —

the medicines for chronic myeloid leukemia, like Gleevec, which is enormously profitable for Novartis. Among the critics is Dr. Brian Druker, who was the main academic developer of Gleevec and had to prod Novartis to bring it to market.

Novartis argues that few patients pay the full cost of the drug and that prices reflect the high cost of research and the value of a drug to patients.

Gleevec entered the market in 2001 at a price of about \$30,000 a year in the United States, the doctors wrote. Since then, the price has tripled, they said, even as Gleevec has faced competition from five newer drugs. And those drugs are even more expensive.

The prices have been the subject of intense debate elsewhere as well. India’s Supreme Court ruled recently that the drug could not be patented, clearing the way for the use of generic alternatives that are far less expensive.

Technology hampers opening of exchange

By Julie Creswell
and Ben Protess
THE NEW YORK TIMES

Trading on the nation’s largest options exchange was delayed for several hours on Thursday because of computer problems, the latest incident to highlight the vulnerability of markets to technological shocks.

The Chicago Board Options Exchange, which normally begins trading for most of its products at 9:30 a.m. Eastern time, returned to normal operations by early afternoon. But brokers who typically trade tens of thousands of options each day through the exchange sat on the sidelines for much of the morning.

The exchange trades options are based on the Standard & Poor’s 500-stock index and the VIX index, a popular barometer of investor sentiment about volatility in U.S. stock markets. The contracts are important tools among investors seeking ways to hedge their stock holdings.

The system failure was the second instance this week of technology intruding into the markets. Earlier this week, a message from The Associated Press’ Twitter account falsely reported explosions at the White House, causing the Dow Jones industrial average to plunge nearly 150 points in two minutes. The markets rebounded quickly after the AP said its account had been hacked.

The market debut of Facebook was botched last May, and a blowup at Knight Capital rattled the markets and nearly toppled the firm.

In today’s rapid-speed electronic trading world, where high-frequency traders zip in and out of stocks and futures at speeds that are faster than the blink of an eye, the nation’s exchanges have sometimes struggled to keep up. Probably most famous is the “flash crash” of May 2010 that sent the Dow into a tailspin. It took regulators months to figure out how what caused the index, already down more than 300

points, to suddenly drop like a stone to a 1,000-point loss before recovering much of that within 20 minutes.

The malfunction in Chicago stoked fear again among regulators and reignited concerns about the market’s vulnerability to broader shocks.

“The recurrence of technology glitches in markets means we need not blindly accept that the whiz-bang machinery will always work as well as it should have,” said Bart Chilton, a regulator at the Commodity Futures Trading Commission. “On the contrary, we need to open our eyes to that fact.”

A news release from the exchange said the cause of delay was “an internal systems issue and not the result of any outside influence.” The exchange has told authorities that the problem stemmed from a “bug” in its computer software, said a person briefed on the matter who was not authorized to speak publicly.

Syria has used chemical weapons, White House says

WASHINGTON — The White House said Thursday that it believes the Syrian government has used chemical weapons in its civil war, an assessment that could test President Barack Obama’s repeated warnings that such an attack could precipitate U.S. intervention in Syria.

The White House, in a letter to congressional leaders, said the nation’s intelligence agencies assessed “with varying degrees of confidence” that the government of President Bashar Assad had used the chemical agent sarin on a small scale. But it said more conclusive evidence was needed before Obama would take action, referring obliquely to both the Bush administration’s use of faulty intelligence in the march to war in Iraq and the ramifications of any decision to enter another conflict in the Middle East.

Sen. Dianne Feinstein, D-Calif., Chairwoman of the Senate Intelligence Committee, said the agencies actually expressed more certainty about the use of these weapons than the White House indicated in its letter. She said Thursday that they have voiced medium to high confidence in their assessment, which official said was based on the testing of soil samples and blood drawn from people who have been wounded.

U.S. officials said the attacks, which occurred last month in a village near Aleppo and in the outskirts of Damascus, had not been definitively connected to Assad. The White House said the “chain of custody” of the weapons was not clear, raising questions about whether the attacks were deliberate or accidental.

—Mark Landler and Eric Schmitt, *The New York Times*

Senators quietly seek new path on gun control

WASHINGTON — Talks to revive gun control legislation are quietly underway on Capitol Hill as a bipartisan group of senators seeks a way to bridge the differences that led to last week’s collapse of the most serious effort to overhaul the country’s gun laws in 20 years.

Drawing on the lessons from battles in the 1980s and ‘90s over the Brady Bill, which failed in Congress several times before ultimately passing, gun control supporters believe they can prevail by working on a two-pronged strategy. First, they are identifying senators who might be willing to change their votes and support a background check system with fewer loopholes.

Second, they are looking to build a national campaign that would better harness overwhelming public support for universal background checks — which many national polls put at near 90 percent approval — to pressure lawmakers.

Sens. Joe Manchin III, D-W.Va., and Patrick J. Toomey, R-Pa., have been talking in recent days about how they could persuade more senators to support their bill to expand background checks for gun buyers, which drew backing from only four Republicans last week.

“We’re going to work it hard,” Manchin said Thursday, adding that he was looking at tweaking the language of his bill in a way that he felt would satisfy the concerns of senators who, for example, felt that background checks on person-to-person gun sales would be too onerous for people who live in rural areas far from a sporting goods store.

Those concerns were an issue for Alaska’s senators, Lisa Murkowski, a Republican, and Mark Begich, a Democrat.

Meanwhile, a separate piece of gun legislation, an anti-trafficking bill, is the subject of talks between two Republican senators who voted no on the background check bill and Sen. Kirsten E. Gillibrand, D-N.Y. The two, Sens. Kelly Ayotte of New Hampshire and Charles E. Grassley of Iowa, are discussing ways they might support the bill, which would criminalize the shipping or transfer of guns to someone who is barred from possessing a firearm.

—Jeremy W. Peters, *The New York Times*

New law makes suing for libel harder in England and Wales

A law enacted Thursday strengthens the position of people sued for libel here and puts an end to most cases of so-called libel tourism, the practice by which powerful foreigners — Russian oligarchs, Arab oil magnates and large corporations, among others — have brought libel cases against authors, journalists, academics, scientists and bloggers, often based on the most tenuous of connections to England.

Under the new law, claimants wanting to sue defendants who do not live in Europe will have to prove that England is the most appropriate place for the case. This is designed to stop foreigners from suing other foreigners in English courts over, for instance, books or magazines that have sold just a handful of copies here, or websites that have been viewed few or even no times at all.

The new law applies only to England and Wales; Scotland and Northern Ireland have different systems.

—Sarah Lyall, *The New York Times*

Free college for those who will roll up their sleeves

When the trustees of New York’s Cooper Union for the Advancement of Science and Art voted this week to start charging for an undergraduate degree, it ended the institution’s lengthy reign as the most famous tuition-free private college in America.

It was never the only such place, though. While most colleges grapple with the growing burden of student debt, a few outliers across the country offer a college education for the one price that looks good in any economy: nothing.

To qualify for Cooper Union’s largess, applicants had to prove themselves on the highest tier of the highest tier of academic or artistic achievement. That might strike some as easy compared with the requirements at some of the other free colleges. One requires students to work on a ranch, milking cows and harvesting alfalfa. Another requires them to build a container ship. And the national service academies, of course, require years of service in support of a robust national defense.

—Ariel Kaminer, *The New York Times*

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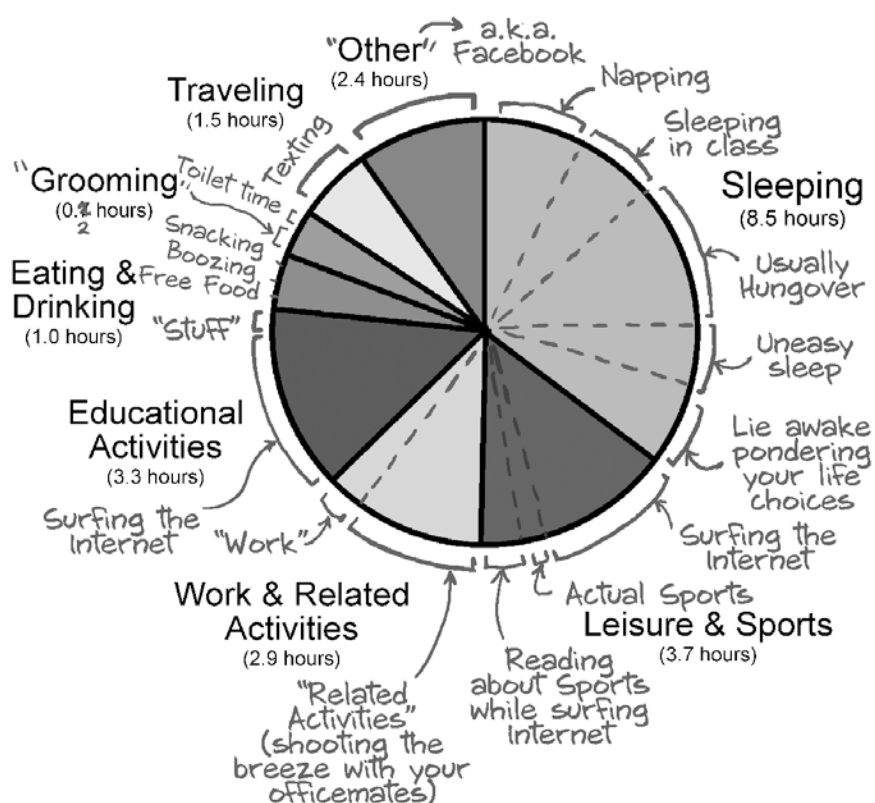
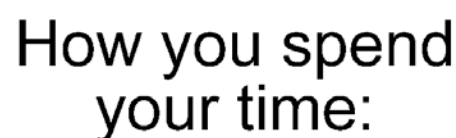
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Better communication needed

Dining: hearing and understanding all perspectives

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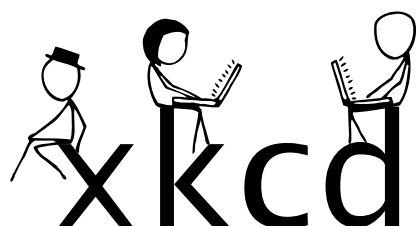


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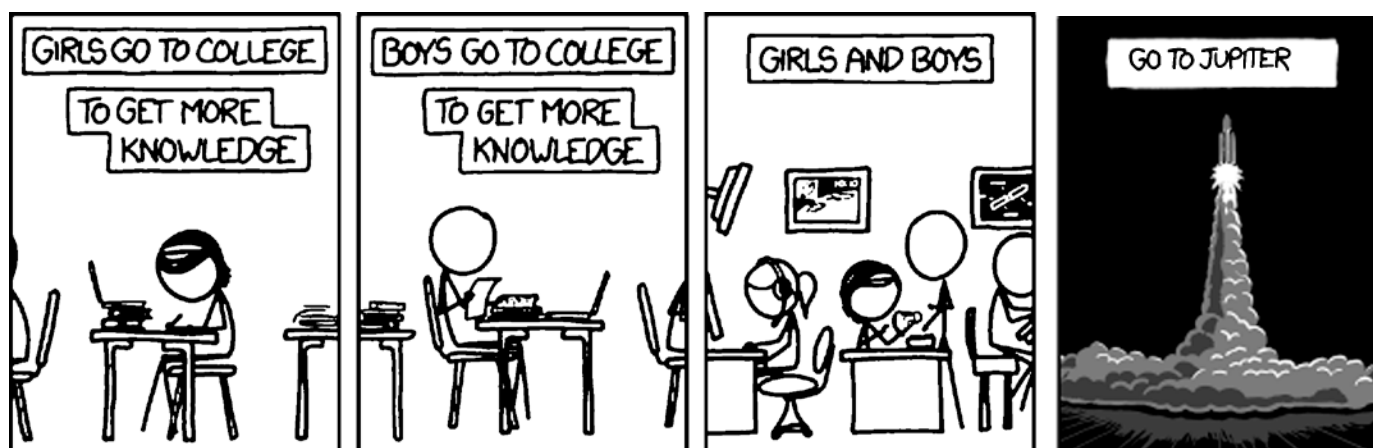
by Jorge Cham

[1577] Girls and Boys



**A WEBCOMIC OF ROMANCE,
SARCASM, MATH, AND LANGUAGE**

by Randall
Munroe



To get more knowledge

Triplet Techdokus

Solution, page 17

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–3. Follow the mathematical operations for each box.

3x		6x
2		
1-		1

6x		2x
6x		
	3x	

18x		2
		3
2		1



Come run in...

HABITAT FOR HUMANITY'S BEAVER DASH 5K RACE

For more info and registration:
beaverdash.mit.edu

Sunday, April 28 2013

Start: 10 am

Start line: Z center Overhang

Suggested Donation: \$10
(and receive a race day shirt!)

Hope to see you there!!

Speak Your Mind

MIT students' stories on coping with mental illnesses

I'm a new student here at MIT, and I've struggled with mental illness ever since I can remember. When I was 6 years old I was sexually abused for about year, and as a result I developed bulimia and began self harming. I also experienced severe, seemingly endless periods of depression throughout my life. I now know that these were a result of my bipolar type II disorder.

When people imagine bipolar disorder, they think of someone who changes from one person to another in a matter of seconds, or goes from happy to miserable in the blink of an eye. But the reality of my bipolar disorder is that I spend about 90% of my time (when I am not medicated) in a state of deep, clinical depression, and the rest of the time is tainted by the knowledge that this depression will come back. The transition in and out of depression takes months, not seconds. I occasionally also experience "hypomanic episodes" during which my mood is unusually elevated and I sometimes experience auditory hallucinations. This does not make me crazy or weird, and it does not change my ability to do anything I set my mind to. It merely means that I have a disease. It is no different than any other illness, and yet I am afraid to tell people that I am bipolar because it changes how they see me. It shouldn't.

I began taking medication and seeing a therapist a few months ago, but even before that I never let my mental illnesses hold me back. I was valedictorian of my high school, I got a 2400 on my SAT, I participated in numerous clubs and sports and held leadership roles throughout my high school career while maintaining straight A's, and I got into MIT early action. I've accomplished more than many people without mental illnesses. And yet the stigma associated with mental illness still weighs on me. I don't want to be judged by my brain chemistry. I want to be judged by what I do.

I am not crazy. I am just like anyone else. You may see me in the infinite corridor, be in one of my classes, or live in the room next door, but you will not be able to tell that I struggle with mental illness every day. Mental illness does not define me. It does not change who I am and what I can, and will, do.

Mental Health and Counseling

Third Floor of E23

Schedule an Appointment: 617-253-2916

Walk-in Urgent Hours: M–F, 2–4 p.m.

http://medweb.mit.edu/directory/services/mental_health.html

Active Minds @MIT

<http://activeminds.mit.edu/main.html>

Contact us

activeminds-exec@mit.edu



Memorial service for Collier

Touching speeches from family, Biden, Reif, DiFava

Memorial, from Page 1

problems,” and earning students’ trust by going hiking with the MIT Outing Club (MITOC), learning swing dancing, and being the same person in uniform that he was out of uniform.

Collier’s brother Rob Rogers talked about the memories of Collier at home. The memories

day again.”

Those sentiments were echoed by U.S. Vice President Joe Biden, who reminded the crowd to remember Collier not for the sacrifice he made, but for the man he was. Biden, who spoke of Boston’s unyielding calmness and conviction, sent a message across to all of the officers present in the spirit of Collier’s values.

pus, and small community gatherings took place all across campus following the memorial. In Steinbrenner Stadium, there was a large reception with enough food for 12,000 people, mostly the attending police officers.

“It was very moving and touching,” said Officer Bishop from NY Suffolk County PD. “I’m sorry it was necessary.”

DiFava said that Collier’s mission was to get the trust of the students — and he succeeded. “He was accepted into [the students’] hearts,” said DiFava, “His love of life and that mischievous grin.”

“To honor Sean’s memory,” said Reif in the memorial, “let us sustain that same spirit of friendliness, kindness, and good will. Let us honor his memory and his life by keeping his example.” That example could be as small as the simple actions that made him so well-known around campus — as Rogers put it, “He has taught me that a smile to a stranger, a simple hello, an outreached hand, can ultimately change how people treat each other.”

‘To honor Sean’s memory. Let us sustain that same spirit of friendliness, kindness, and good will. Let us honor his memory and his life by keeping his example.’

—*L. Rafael Reif*
MIT PRESIDENT

seemed to truly echo that the Sean Collier everyone at MIT saw was the same Sean Collier who would blast country music — particularly his favorite, the Zac Brown Band — in his F150 truck.

“If Sean was here, what would he think, ‘Are you kidding me?’ He would love this,” Rogers said. “You’ve got sirens, flashing lights, formations, people saluting, bagpipes, taps, the American flag — He would have loved it.”

Massachusetts Senator Elizabeth Warren spoke about Collier’s spirit of service, which was “infused in his life.”

“That protection, that strength, which came only from giving himself fully, it is that same spirit we saw in firefighters, police officers, EMS, and guard coordinating the first response and turning peril into protection,” said Warren, “that same spirit we saw in hospitals and support staff who worked through the day, and worked through the night, and then worked through the

“[When joining the force], you all had that inexplicable sense of duty and that gross underestimation of your value and how important you are. Every day when you pin on that shield, the members of your family ... know what anything could happen, yet they stand with you, they have the courage to support you,” Biden said.

Truly, it seemed like the Institute had pulled out all the stops to commemorate the life of a person who, in the words of MIT’s President Rafael Reif, “didn’t just have a job at MIT, he had a life at MIT.”

Many people present, like MIT Libraries engineer Sands A. Fish, didn’t know Collier but came out to pay their respects.

Many students decided to attend the event after classes were cancelled for the day.

Without a doubt, it seemed that, like DiFava said, Collier was the same person in and out of uniform.

A video feed of event was streamed across the entire cam-

Small community gatherings took place all across campus following the memorial.

MIT has inducted him as an honorary member of the MIT Alumni Association and has established a Collier Medal and associated fund, to be awarded to individuals who demonstrate Collier’s values.

SpringFest concert tonight

SpringFest, from Page 1

There will be more police for the larger crowd, Yuschenkoff said, but everything else should run as usual.

“Johnson holds 4,000 people,” continued Yuschenkoff, “so we’re well able to handle the crowd.”

MIT students purchased 2,875 tickets, and 875 more went to non-MIT students, which includes other college students, MIT alumni, and MIT faculty and staff, according to SAO Program Coordinator Joel Pettigrew.

MIT and non-MIT tickets are marked as such, but due to the high rate of exchange between MIT and non-MIT parties, there is no longer any functional difference between the two.

“In an ideal world, MIT tickets would be used by MIT students,” said Yuschenkoff, “but tickets have

changed hands so many times, and people were not aware of the rules, so we’re not going to turn someone away just because they have the wrong type of ticket.” Yuschenkoff added, “We just want to get everyone into Johnson as quickly as possible.”

As for the issue of students not

being able to buy tickets due to them selling out rapidly, Yuschenkoff noted that there were still chances to win tickets on WMBR (the MIT student radio station) after Ra Ra Riot was announced, and even after ticket sales closed there was still the chance to be a volunteer.

—Bruno B.F. Faviero

BOSTONBALLET

MIKKO NISSINEN ARTISTIC DIRECTOR



CHROMA

May 2–12

The Boston Opera House

McGregor’s *Chroma*

Music by Joby Talbot and the White Stripes

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*Does not include alcohol or gratuity

The Tech Model Railroad Club

Open House

Saturday April 27

From 2pm onward

N52-118

Next door to the MIT Museum




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Tech Model Railroad Club

Wired since 1948

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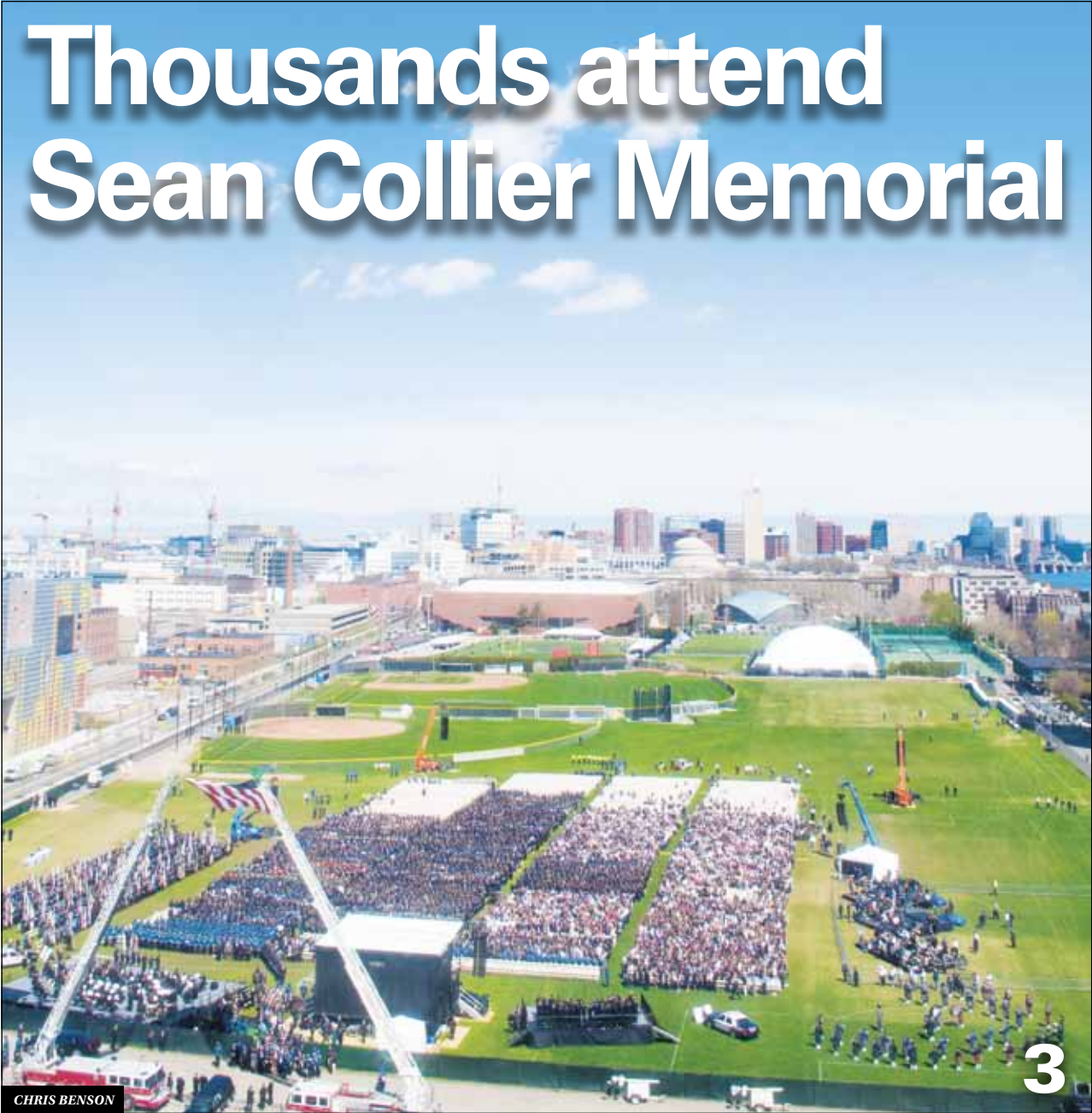
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- 1. A Massachusetts State Police helicopter** flies over Briggs Field as part of an honorary flyover after the memorial for MIT police officer Sean Collier.
- 2. A large American flag** was raised behind the stage at the memorial by two firetruck ladders.
- 3. More than 10,000 guests** were in attendance at the memorial in Briggs Field.
- 4. The MIT community joined law enforcement** officials at the service.
- 5. Members of the Irish American Police Officers Association** of Massachusetts play on the bagpipes in honor of Sean Collier.
- 6. Vice President Joe Biden spoke at the memorial service** on Wednesday. Other notable guest included Massachusetts Governor Deval Patrick, singer-songwriter James Taylor, and Massachusetts Senator Elizabeth Warren.



Survey: few meals missed despite plan inflexibility

1 in 4 non-dining dorm students surveyed say they would enroll in Any 7 if allowed

INFOGRAPHIC BY FAREEHA SAFIR

According to the survey, students on a dining plan miss 1.5 meals a week on average. That's just in line with a very conservative quick estimate using MIT data, which suggests that meal plan holders miss at least 1.3 meals a week, assuming everyone opts for the smallest meal plan allowed.

(Henry J. Humphreys, Senior Associate Dean of Residential Life and Dining, told *The Tech* that dining halls saw 317,096 swipes last semester. And though he declined to provide the number of people enrolled in each meal plan, he did tell *The Tech* that 2078 people were enrolled in a meal plan last semester. From MIT dorm data, that means more than 450 people not in dining dorms enrolled in a meal plan last semester. Even assuming all of these people signed up for the smallest meal plan they could for their year, and assuming all of the people in dining dorms signed up for the smallest plan allowed for their class year, the tally for meals that plan holders paid for is more than 40,000 in excess of the swipe count.)

But are rigid meal plans policies and short dining hall hours really to blame? Compared to many other schools' dining services, MIT's offerings leave a lot of pricing options open.

Sources: Division of Student Life, MIT dorm data

INFOGRAPHIC BY JUDY HSIANG AND ANNIA PAN

Schools

7 a.m. 8 a.m. 9 a.m. 10 a.m. 11 a.m. 12 p.m. 1 p.m. 2 p.m. 3 p.m. 4 p.m. 5 p.m. 6 p.m. 7 p.m. 8 p.m. 9 p.m. 10 p.m.

1 2** 3 4 5 6 7 8

7 a.m. 8 a.m. 9 a.m. 10 a.m. 11 a.m. 12 p.m. 1 p.m. 2 p.m. 3 p.m. 4 p.m. 5 p.m. 6 p.m. 7 p.m. 8 p.m. 9 p.m. 10 p.m.

Many respondents said undergraduate dining policies were too restrictive. How do other schools stack up?

1. MIT
Students living in one of the five dining dorms must be on a meal plan. Sophomores in dining dorms, for example, must enroll in at least a 12-meal/week plan.

2. Caltech
All resident students must be on the "Feynman plan," which includes dinner on weekdays and a nonrefundable \$400/semester balance for other meals.

3. Harvard
All resident students are required to be on the \$5264/year unlimited meal plan.

4. Princeton
All resident students must be on a meal plan. Sophomores, for example, must at least enroll in a plan with about 13 meals/week. Meals roll over week to week.

5. Stanford
All resident students must be on a meal plan. The smallest plan includes 10 meals/week and a nonrefundable \$750/year balance.

6. Tufts
Freshmen must be on the \$5491/year 'Premium' unlimited meal plan; options expand with class year. Juniors and seniors may opt out entirely.

7. Wellesley
All resident students are required to be on the \$6418/year unlimited meal plan.

8. Yale
All resident students must be on a meal plan. Freshmen are required to take at least the \$6070/year 21-meal/week plan. Others may drop down to a 10-meal/week plan.

****Caltech's house dinners open at 5 p.m.; cafés accepting "board money" open at 7 a.m.**

6. Tufts

Freshmen must be on the \$5491/year 'Premium' unlimited meal plan; options expand with class year. Juniors and seniors may opt out entirely.

7. Wellesley

All resident students are required to be on the \$6418/year unlimited meal plan.

8. Yale

All resident students must be on a meal plan. Freshmen are required to take at least the \$6070/year 21-meal/week plan. Others may drop down to a 14-meal/week plan.

The role and function of the Institute-wide HDC

House Dining Committee interfaces with Bon Appétit to address dining concerns

By Kath Xu
STAFF REPORTER

Next time you have something to say about the dining halls, consider talking to the members of MIT's House Dining Committee (HDC).

Formed after MIT switched to the current dining system, the HDC is comprised of seven undergraduates, the housemasters from each of the five dining dorms, and several representatives from Bon Appétit and Residential Life & Dining (RL&D). Of the seven undergraduate students on the committee, five of them are the dining chairs of the dorms with dining halls (Maseeh, McCormick, Baker, Next, and Simmons), and the other two students are the UA and DormCon dining chairs. The committee meets each month to discuss issues related to dining on campus.

According to the meeting minutes posted on the HDC's website, topics of discussion range from food quality to enforcement of dining hall rules. At the start of each meeting, the committee discusses data collected by Bon Appétit that includes the previous month's dining hall usage.

"I help to transmit relevant information back to residents, and to provide student input on the general direction of the house dining program and its policies," described Cosmos Darwin '15. The dining chair of Simmons, Darwin sits on the HDC and holds additional regular meetings in Simmons with Bon Appétit staff to discuss specific improvements.

Anastassia Bobokalonova '16, Baker's dining chair, said she ran for the position because she wanted to

take a more active role in improving the quality of dining at MIT.

“During my first semester, I had become friends with Baker’s Dining Manager and talked to the chefs frequently,” said Bobokalonova. “I had also noticed that my peers (and myself at times) would choose to eat at other dining dorms because of better quality or service. Because I felt connected to both parties and wanted Baker to have healthy and satisfying meals, I ran for Baker Dining Chair at the start of this semester.”

On the other hand, Katherine J. Silvestre '14, the dining chair of McCormick, ran because she was "not in favor of being on a meal plan."

"I am vegan and try to eat a healthy diet, so I was concerned about the options that would be available to be on the meal plan," said Silvestre. "Essentially, I got tired of complaining about having to enroll in the meal plan and decided to take action." Silvestre believes that MIT meal plans are "pretty comparable" to other universities in price, but worries that the high cost of meal plans drives people away from choosing to live in Tier 1 dorms — newer dorms with higher operation costs — such as McCormick.

Although the dining chairs are meant to voice general student feedback, Maseeh's dining chair Katelyn M. Rossick '14 finds that student-submitted complaints are often not constructive.

"A lot of the time, I'll receive student feedback just saying that the food is awful, which from my perspective isn't very helpful. We need to receive more comments about specifics," said Rossick, who recommended using comment cards

available at dining halls to voice opinions. "It's really a lot more productive and can actually help bring about change as far as food quality goes."

"I feel that representatives from Residential Life & Dining and Bon Appétit are somewhat responsive to student needs. There are some areas where they have addressed concerns and made changes in response to specific issues," explained Silvestre. "For example, a couple months after the meal plan was implemented in Fall 2011, they moved

The lack of rollover meals is one of the largest complaints they receive.

brunch hours from 11 a.m. – 2 p.m. to 10 a.m. – 1 p.m., after students complained that brunch started too late. They also implemented guest passes for this year, which many students wanted. However, there are other issues where Residential Life & Dining is aware of what students would prefer, but has not taken action. For example, the Student Voice survey last year showed that the majority of respondents would be more likely to use a Late Night dining option at Maseeh, McCormick, or Baker. However, neither the Residential Life and Dining nor Bon Appétit has brought up the idea of moving the late night option to the House Dining Committee.”

According to Michael Myers, the Assistant Director of Campus Dining at MIT and a RL&D representative on the HDC, expanding Late Night options to other dorms is currently not feasible due to physi-

cal constraints. Unlike other dining dorms, Simmons has its own space for Late Night that is separate from the dining hall. Opening up a Late Night option at Next House, for instance, would mean having to open up the entire dining hall and thus increase operating costs.

Next House dining chair Haley M. Hurowitz '16 says she would like to see "more meal plan flexibility with what meal plans students can buy based on year and living arrangement."

Rossick (Maseeh), Bobokalonnova (Baker), and Silvestre (McCormick) all mentioned the lack of rollover meals as one of the largest complaints they receive from students.

"By putting the types of restrictions onto the meal plan, that's what has allowed us to keep the costs as low as they are right now," stated Myers.

Silvestre says that last spring, the HDC discussed implementing a block meal plan in Fall 2013, but URR&D and Bon Appétit didn't end up meeting the October 2012 deadline for review of such a proposal. A block plan would have allowed students to use a set number of meals at any time during the semester.

"I was greatly disappointed by this, and I will continue to push for a block meal plan on the House Dining Committee, as I believe it is in the best interest of students," remarked Silvestre.

"As we were studying and learning more and more about how we might be able to switch into a block plan program as well as other ideas that we've had with increased perceived flexibility, we decided that it's a much larger discussion than just sitting down

and saying, 'Okay. We're going to switch to block plans next year,'" said Myers. "We need to get senior-level management involvement, corporation board management involvement, and so many stakeholders involved in it that it's not going to be a quick scenario to be able to switch."

Naomi Carton, the Associate Dean of RL&D, added, "It's not that we're not open, we want to make sure it's feasible. [For instance], we don't want you to be paying 18 percent more than you're already paying on your meal plan." According to Carton, MIT is contracted with Bon Appétit for another three years. Until the contract is up for renewal, any changes, such as adding rollover, are difficult to make.

Although guest passes were recently implemented this year, students are not allowed to “give” other students meals by letting in swipe in with their IDs, something that MIT Dining has noticed occurring.

“When you’re purchasing your meals, those are on your ID. It does not easily switch to another person’s meal plan because that is not that person’s money,” said Carton. “There’s a lot of logistical and ethical implications that all plays into [meal transference].”

In addition, Myers stated that the unused meals are actually factored into the cost of meal plans. If the number of unused meals decreased, Myers indicated that the cost of meal plans would increase.

The HDC welcomes feedback from students on its website. “I think good communication is the key to making the dining plan work and reflect what students really want,” said Darwin.

Dining plan now mandatory for Thetas, no plans for more dining communities.

Some Kappa Alpha Thetas were disappointed this past month when they found that their renegotiated lease contract for their sorority house on dorm row with MIT included a new provision: all members living in the house must be on a Dining Plan. However, Senior Associate Dean for Residential Life & Dining Henry J. Humphreys said that any fears of other current cooking-for-yourself communities being put on the dining plan are unfounded.

"[Theta] was a cook-for-yourself community only because there was no dining option for them previously," Humphreys said.

The only other FSILG that the meal plan supports is Pi Beta Phi. Pi Phi began occupying the house on dorm row adjacent to Kappa Sigma, W51C, in Fall 2012. The house was renovated following the damage done in 2008 while it was previously inhabited by the now disbanded MIT Chapter of Alpha Tau Omega. During the renovations, the house's full sized kitchen was ripped out to make room for a handicapped-accessible apartment.

“Some people think that if we renovate them, we’re going to add a dining hall,” Humphreys said. “I could see a community like East Campus being worried because we’re talking about renovating there. We’re going to be building in nice kitchens. [East Campus] is a cook-for-yourself community. There is no grand plan to change everybody over to the dining plan. A balance between the two different types of communities will always be a part of our planning process.”

—Stan Gill

INFOGRAPHIC BY AISLYN SCHALCK

Administration reflects on the future of dining

Students report some dissatisfaction; formal RL&D assessment to occur in a year

By Stan Gill
NEWS EDITOR

Now that the new dining plan has been in place for almost four semesters, how could it improve? Although the House Dining Program is unlikely to change in the short term, the system will be evaluated after next year in an assessment driven by student opinion and data that Residential Life & Dining can gather about usage of the plan, feedback about the quality of food, and other metrics, says Henry J. Humphreys, senior associate dean of Residential Life and Dining (RL&D).

In 2014, RL&D will conduct an assessment of dining to better accommodate the changing needs of the students who use the house dining plan, said Humphreys. “We know that there have to be some adjustments,” Humphreys said. “We want to make sure that we use data to determine what those changes will be. We will definitely also have students in on those conversations.”

Regardless of the promise of an assessment in the future, it is evident that some students already think that the quality of food in particular could use major improvements. Over half of the respondents to *The Tech’s* survey about the current state of the house dining plan rated that they “Strongly disagreed” or “Disagreed” with the statement “I am satisfied with the quality of food served in the dining halls.” Humphreys said he had not had this sentiment brought to his attention either by students or other Division of Student Life (DSL) staff.

“We have not heard that sentiment about overall satisfaction,” Humphreys said. “But, this is why we need to bring in our assessment person to develop an instrument that gives us a good idea of what’s really going on.”

Humphreys also mentioned the current house dining system does not provide capacity for rollover meals and other “bells and whistles” because that would increase the cost of the plan, and DSL is trying to keep the costs lower.

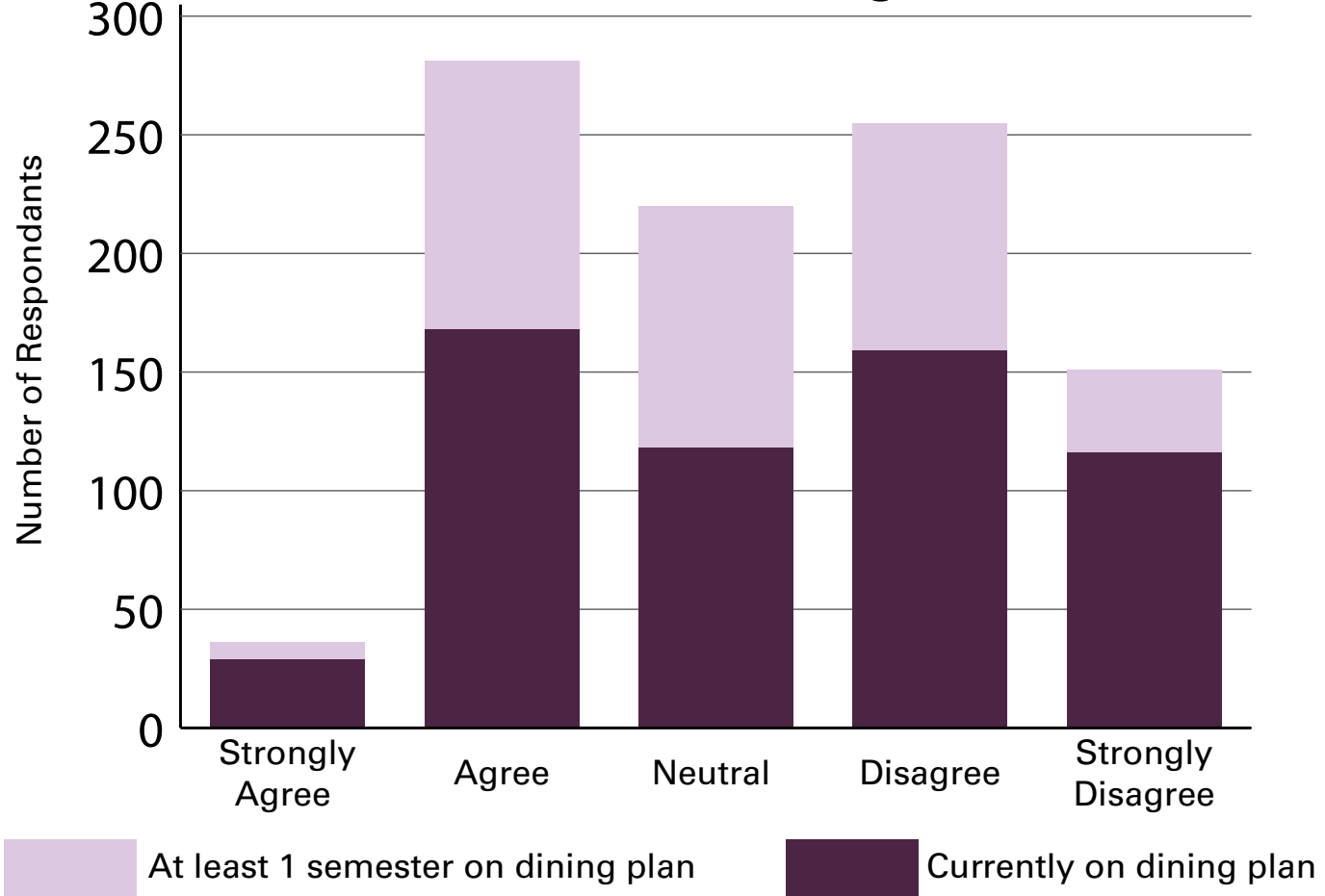
“The idea is to always provide quality food service to our students while also being conscious of cost because our students are conscious of cost,” Humphreys said.

Nevertheless, 431 out of 559 (or about 77 percent) respondents to *The Tech’s* survey on the dining plan said that they thought they were getting less than their money’s worth for each meal that they ate at the dining hall.

Most of the problems that RL&D deals with are very small issues, such as availability of food options at certain communities as opposed to others or the cleanliness of the dining hall spaces. “We’re very quick on Bon Appétit to address those issues right away,” Humphreys said.

Although dining is unlikely to see any drastic changes over the next year, RL&D’s short term goal is to improve how dining runs in its current state. Whether the students are satisfied with this however, is another story.

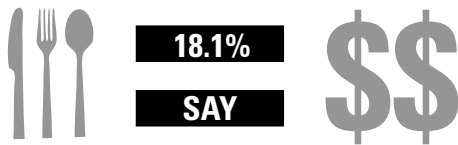
“I am satisfied with the quality of food served at the dining halls.”



“Each meal I eat at the dining halls is ...”



“Less than my money’s worth.”



“Just about my money’s worth.”



“More than my money’s worth.”

*Only respondents who indicated they were currently in a dining plan were counted for this statistic

INFOGRAPHIC BY SARAH RITTER



ANNIE JIAO

Members of the MIT Dining staff take a short break during dinner.

Carjacking victim recounts tale of harrowing night

26-year-old drove marathon bombers for ninety minutes before escaping from vehicle

By Eric Moskowitz
THE NEW YORK TIMES

The 26-year-old entrepreneur had just pulled his new Mercedes to the curb on Brighton Avenue to answer a text when an old sedan swerved behind him, slamming to a stop. A man in dark clothes got out and approached the passenger window. It was nearly 11 p.m. last Thursday.

The man rapped on the glass, speaking quickly. Danny, unable to hear him, lowered the window — and the man reached an arm through, unlocked the door, and climbed in, brandishing a silver handgun.

“Don’t be stupid,” he told Danny. He asked if he had followed the news about the previous Monday’s Boston Marathon bombings. Danny had, down to the release of the grainy photos of suspects less than six hours earlier.

“I did that,” said the man, who would later be identified as Tamerlan Tsarnaev. “And I just killed a po-

liceman in Cambridge.”

He ordered Danny to drive — right on Fordham Road, right again on Commonwealth Avenue — the beginning of an aching slow odyssey last Thursday night and Friday morning in which Danny felt the possibility of death pressing on him like a vise.

The story of that night unfolds like a Tarantino movie, bursts of harrowing action laced with dark dialogue.

In an exclusive interview with the Globe, Danny — the victim of the Tsarnaev brothers’ much-discussed but previously little-understood carjacking — filled in some of the last missing pieces in the timeline between the murder of MIT police officer Sean Collier, just before 10:30 p.m. on April 18, and the Watertown shoot-out that ended just before 1

a.m. Danny asked that he be identified only by his American nickname.

The story of that night unfolds like a Tarantino movie, bursts of harrowing action laced with dark humor and dialogue absurd for its ordinariness, reminders of just how young the men in the car were. Girls, credit limits for students, the marvels of the Mercedes-Benz ML 350 and the iPhone 5, whether anyone still listens to CDs — all were discussed by the two 26-year-olds and the 19-year-old driving around on a Thursday night.

Danny described 90 harrowing minutes, first with the younger brother following in a second car, then with both brothers in the Mercedes, where they openly discussed driving to New York, though Danny could not make out if they were planning another attack. Throughout the ordeal, he did as they asked while silently analyzing every threatened command, every overheard snatch of dialogue for clues about where and when they might kill him.

“Death is so close to me,” Danny

recalled thinking. His life had until that moment seemed ascendant, from a province in Central China to graduate school at Northeastern University to a Kendall Square start-up.

“I don’t want to die,” he thought. “I have a lot of dreams that haven’t come true yet.”

After a zigzagging trek through Brighton, Watertown, and back to Cambridge, Danny would seize his chance for escape at the Shell Station on Memorial Drive, his break turning on two words — “cash only” — that had rarely seemed so welcome.

When the younger brother, Dzhokhar, was forced to go inside the Shell Food Mart to pay, older brother Tamerlan put his gun in the door pocket to fiddle with a navigation device — letting his guard down briefly after a night on the run. Danny then did what he had been rehearsing in his head. In a flash, he unbuckled his seat belt, opened the door, stepped through, slammed it behind, and sprinted off at an angle that would be a hard shot for any marksman.

payments — in a desperate hope of extending his life.

Danny had come to the United States in 2009 for a master’s degree, graduated in January 2012, and returned to China to await a work visa. He came back two months ago, leasing a Mercedes and moving into a high-rise with two Chinese friends while diving into a startup. But he told Tamerlan he was still a student and that he had been here barely a year. It seemed to help that Tamerlan had trouble understanding even Danny’s pronunciation of the word “China.”

“Oh, that’s why your English is not very good,” the brother replied, finally figuring it out. “OK, you’re Chinese. I’m a Muslim.”

“Chinese are very friendly to Muslims!” Danny said. “We are so friendly to Muslims.”

When the ordeal had started, Danny prayed it would be a quick robbery. Tamerlan demanded money, but Danny had just \$45 in cash — kept in the armrest — and a wallet full of plastic. Evidently disappointed to get so little out of holding up a \$50,000 car, he told Danny to drive. The old sedan followed.

“Relax,” Tamerlan said, when Danny’s nerves made it hard for him to stay in the lane. Danny, recalling the moment, said, “My heart is pounding so fast.”

They lapped Brighton and crossed the Charles River into Watertown, following Arsenal Street. Looking through Danny’s wallet, Tamerlan asked for his ATM code — a friend’s birthdate.

Directed to a quiet neighborhood in East Watertown, Danny pulled up as instructed on an unfamiliar side street. The sedan stopped behind him. A man approached — the skinnier, floppy-haired “Suspect No. 2” in the photos and videos released by investigators earlier that evening — and Tamerlan got out, ordering Danny into the passenger seat, making it clear that if he tried anything he would shoot him. For several minutes, the brothers transferred heavy objects from the smaller car into Danny’s SUV. “Luggage,” Danny thought.

For several minutes, the brothers transferred heavy objects from the smaller car into Danny’s SUV.

With Tamerlan driving now, Danny in the passenger seat, and Dzhokhar behind Danny, they stopped in Watertown Center so Dzhokhar could withdraw money from the Bank of America ATM using Danny’s card. Danny, shivering from fear but claiming to be cold, asked for his jacket. Guarded by just one brother, Danny wondered if this was his chance, but he saw around him only locked storefronts. A police car drove by, lights off.

Tamerlan agreed to retrieve Danny’s jacket from the back seat. Danny unbuckled, put on the jacket, then tried to buckle the seat belt behind him to make an escape easier. “Don’t do that,” Tamerlan said, studying him. “Don’t be stupid.”

Danny thought about his burgeoning start-up and about a girl he secretly liked in New York. “I think, ‘Oh my god, I have no chance to meet you again,’” he recalled.

Dzhokhar was back now. “We both have guns,” Tamerlan said, though Danny had not seen a second weapon. He overheard them speak in a foreign language — “Manhattan” the only intelligible word to him — and then ask in English if Danny’s car could be driven out of state. “What do you mean?” Danny said, confused. “Like New York,” one brother said.

They continued west on Route

His quick-thinking escape, authorities say, allowed police to swiftly track down the Mercedes.

“F—!” he heard Tamerlan say, feeling the rush of a near-miss grab at his back, but the man did not follow. Danny reached the haven of a Mobil station across the street, seeking cover in the supply room, shouting for the clerk to call 911.

His quick-thinking escape, authorities say, allowed police to swiftly track down the Mercedes, abating a possible attack by the brothers on New York City and precipitating a wild shoot-out in Watertown that would seriously wound one officer, kill Tamerlan, and leave a severely injured Dzhokhar hiding in the neighborhood. He was caught the following night, ending a harrowing week across Greater Boston.

Danny spoke softly but steadily in a 2 1/2-hour interview at his Cambridge apartment with a Globe reporter and a Northeastern criminology professor, James Alan Fox, who had counseled Danny after the former graduate student approached his engineering adviser at Northeastern.

Danny, who offered his account only on the condition that the Globe not reveal his Chinese name, said he does not want attention. But he suspects his full name may come out if and when he testifies against Dzhokhar Tsarnaev.

“I don’t want to be a famous person talking on the TV,” Danny said, kneading his hands, uncomfortable with the praise he has received from the few friends he has shared the story with, some of whom encouraged him to go public. “I don’t feel like a hero. I was trying to save myself.”

Danny, trained as an engineer, made scrupulous mental notes of street signs and passing details, even as he abided the older Tsarnaev’s command not to study his face.

“Don’t look at me!” Tamerlan shouted at one point. “Do you remember my face?”

“No, no, I don’t remember anything,” he said.

Tamerlan laughed. “It’s like white guys, they look at black guys and think all black guys look the same,” he said. “And maybe you think all white guys look the same.”

“Exactly,” Danny said, though he thought nothing of the sort. It was one of many moments in their mental chess match, Danny playing up his outsider status in America and playing down his wealth — he claimed the car was older than it was, and he understated his lease



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Solution to Triplet Techdoku I
from page 6

1	3	2
2	1	3
3	2	1

Solution to Triplet Techdoku II
from page 6

3	2	1
1	3	2
2	1	3


Solution to Triplet Techdoku III
from page 6

3	1	2
1	2	3
2	3	1

Solution to Crossword
from page 5

L	I	R	A		R	E	P	O		N	O	I	S	E
A	L	A	N		I	V	E	S		T	O	P	P	S
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Grad school alumni satisfied with MIT

Alumni, from Page 1

are very satisfied to be MIT graduates, while only 1 percent of each doctoral, MBA, and other Masters’ degree alumni are very dissatisfied to be MIT graduates. 92 percent of the MBA alumni — compared to 89 percent of doctoral alumni and 87 percent of other Masters’ degree — alumni thought their academic experience was very satisfactory. However, their satisfaction level was slightly lower regarding student life experience — 67 percent of doctoral, 81 percent MBA, and 77 percent other Master’s degree alumni were “appreciably satisfied.”

What did they do after graduation?

The report says that more alumni went to work than to higher education after graduating. For doctoral alumni, 62 percent went to work right after graduating and 37 percent went to postdoctoral appointment, whereas 94 percent of MBA alumni went to working. 40 percent of graduates ended up in Massachusetts for their first position after graduation, with California being the location of choice for 16 percent of alumni. 20 percent of the alumni went to work abroad immediately after graduation. As of the time they completed the survey, 22 percent of doctoral alumni, 39 percent of MBA alumni, and 25

percent of other Master’s alumni are currently working outside of U.S.

What is their field of work and quality of work experience?

About 70 percent of the alumni currently work in a field that is the same as what they graduated in from MIT. In terms of compensation for their labor, alumni on average earn \$156,793 annually. On average, MBA alumni earn \$214,488; doctoral alumni earn \$144,320; and alumni with other Master’s degree earn \$142,039. For better or worse, some alumni still feel pressure in their jobs similar to stress at the institute — 52 percent of alumni oc-

About 70 percent of alumni currently work in a field the same as what they graduated in.

asionally feel overwhelmed by the work they need to do in their job, while 23 percent never feel overwhelmed and 8 percent often feel very overwhelmed.

Are they entrepreneurial?

Graduate alumni have the entrepreneurial bug much like a lot of undergraduate alumni do. 43

percent of graduate alums have owned or still own a start-up company, 16 percent of them are employed by start-up companies, and 25 percent of alumni have invested in start-up. About 18 percent of them started a company that is based on their research at MIT. Among the alumni who own a start-up 2 percent started a company when they were an undergraduate at MIT; 8 percent when they were graduate student; 15 percent started company before coming to MIT; and 45 percent started their companies within 5 years of graduation.

In terms of leadership positions graduate alumni hold in companies, 14 percent of doctoral alumni, 36 percent of MBA alumni, and 21 percent of alumni with other Master’s degrees are currently on the board of directors of the company they work in. On the other hand, 15 percent, 3 percent, and 6 percent doctoral alumni, MBA alumni and alumni with other Master’s degree respectively are in the scientific advisory board of their employing company.

What skills do they think are of high importance as they enter professional life?

Alumni were asked to rate the importance of a variety of skills to their current work on a scale of not important to essential. Top interpersonal skills identified by

alumni are critical thinking, being flexible and adaptable, responsive to changes, time management, taking initiative and resourcefulness. Among communication skills, 96 percent of alumni rate that effective one-on-one communication was identified as the most essential skill.

What is the condition of their intellectual involvement, family involvement and social life?

Around 5 percent of the alumni have at least 5 patents and/or inventions. 19 percent of doctoral alumni, 11 percent of MBA alumni, and 11 percent of other Master’s degree alumni have been invited to 10-30 lectures or presentations since they graduated from MIT with their most recent degree.

When students at MIT, 65 percent were satisfied with their ability to maintain a balance between academic and personal life but 18 percent were dissatisfied. A similar percentage of graduates answered that they feel the same about that balance in their current situation.

62 percent of doctoral alumni are still connected to their faculty advisor while only 9 percent of MBA alumni and 30 percent of alumni with other degrees are connected with their faculty advisor. However, more than 88 percent of alumni are still connected to their friends and acquaintances at MIT.

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Describing the carjacking by the Tsarnaev brothers

Northeastern alum, the carjacking victim, talks about the events in part of a violent night

Carjacking, from Page 16

20, in the direction of Waltham and Interstate 95, passing a police station. Danny tried to send telepathic messages to the officers inside, imagined dropping and rolling from the moving car.

Tamerlan asked him to turn on and demonstrate the radio. The older brother then quickly flipped

through stations, seemingly avoiding the news. He asked if Danny had any CDs. No, he replied, he listens to music on his phone. The tank nearly empty, they stopped at a gas station, but the pumps were closed.

Doubling back, they returned to the Watertown neighborhood — “Fairfield Street,” Danny saw on the sign — and grabbed a few more

things from the parked car, but nothing from the trunk. They put on an instrumental CD that sounded to Danny like a call to prayer.

Suddenly, Danny’s iPhone buzzed. A text from his roommate, wondering in Chinese where he was. Barking at Danny for instructions, Tamerlan used an English-to-Chinese app to text a clunky reply. “I am sick. I am sleeping in

a friend’s place tonight.” In a moment, another text, then a call. No one answered. Seconds later, the phone rang again.

“If you say a single word in Chinese, I will kill you right now,” Tamerlan said. Danny understood. His roommate’s boyfriend was on the other end, speaking Mandarin. “I’m sleeping in my friend’s home tonight,” Danny replied in English.

“I have to go.”

“Good boy,” Tamerlan said. “Good job.”

The SUV headed for the lights of Soldiers Field Road, banking across River Street to the two open gas stations. Dzhokhar went to fill up using Danny’s credit card, but quickly knocked on the window. “Cash only,” he said, at least at that hour. Tamerlan peeled off \$50.

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Solution to Sudoku

from page 5

4	1	9	6	5	3	8	7	2
7	2	3	4	8	9	5	6	1
6	8	5	7	1	2	9	4	3
5	4	2	9	6	7	3	1	8
1	7	8	2	3	5	4	9	6
3	9	6	1	4	8	2	5	7
2	3	4	5	7	6	1	8	9
9	5	7	8	2	1	6	3	4
8	6	1	3	9	4	7	2	5

Solution to Techdoku I


from page 5

4	2	3	1	5	6
2	6	1	5	3	4
1	5	6	4	2	3
5	3	4	2	6	1
3	1	2	6	4	5
6	4	5	3	1	2

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Borpujari Priyanka
Center for International Studies, MIT



Suad Maow
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A conversation with the director of Dramashop's *No Exit*

A conversation with the director of Dramashop's *No Exit*



STALY CHIN

Allison M. Schneider (left) confronts Chris D. Smith '13 and Emily K. Lydic '14 in Dramashop's dark comedy, *No Exit*.

STAFF WRITER

tor and the Text," which I took this fall. The entire course consisted of working on scene after scene and performing them in front of the class about once a week. It was brutal at points — there were weeks when it was my most time-consuming class — but Alan's unrelentingly honest and insightful feedback helped us all grow as actors. I decided to create this production as an opportunity to apply what I had learned to my directing.

TT: What aspects of the script do you

TT: Do you think your approach to the feel of the play differs from that of other productions?

AS: I haven't seen any other staged productions of *No Exit*, so I don't really know. I try not to do too much research into the production history of shows I'm working on so that I'm not too heavily influenced by what others have done. It's too easy to see someone else's interpretation and waste time worrying about comparing what you've done to what they've done.

TT: What are rehearsals like? What aspects of the play have been toughest to master?

AS: We rehearsed the play for three and a half months, with some lulls when actors were involved in other productions. Since the entire play is one continuous scene with just four actors, it was absolutely crucial to grapple with every moment — if you lose track of what you're doing at any given point, you lose the whole rest of the play. Our goal during rehearsals was to make sure that at every moment the actors were doing something and knew what they were doing. When you have definite motivated

Free admission

Adam Strandberg: *No Exit* is my fifteenth production at MIT and my third time directing. I never had any classes or training in directing, so most of what I've learned springs from trying to observe my directors in action and seeing whether I like the results.

find most exciting to incorporate on stage,
and why?

AS: I first read *No Exit* in my high school dramatic literature class, and I was drawn to it because I thought it was absolutely hilarious. When I revisited it last semester while exploring plays to work on, I was struck by how every moment of the play is filled with desperate, sexual, and vicious action. You might expect a play written by an existential philosopher to be dry, boring, and bloated

An insightful and useful analysis of lighting in art

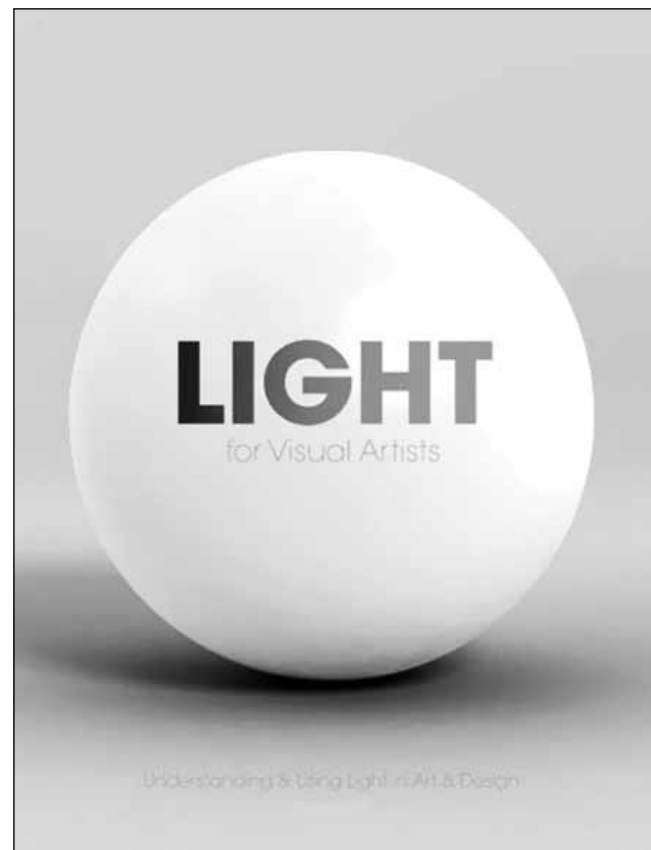
STAFF WRITER

The book begins by delving into the fundamentals of lighting. It moves from a discussion of basic principles of lighting to cover the differences between natural light and artificial lighting. The effect of shadows on the perception of the art piece is explained from a logical stance (e.g. the surfaces of objects darken when they get closer together), but the even more interesting aspect of emotional and psychological effects that shadows bring to an artwork is discussed in depth. In relation to a discussion of shadows, the more complex subjects of translucency and transparency, and diffuse and direct lighting are introduced with colorful pictures that demonstrate their differences. This section in particular is of interest to animators and renderers: most of the rendering software in the market invest in algorithms that can manipulate light, and the successful ones are able to make translucent and transparent materials look natural in diffuse and direct lighting environments. In radiosity mesh cal-

April 2011

Fundamentals aside, the book also gives practical advice on lighting of people for portrait photography and lighting in natural environments for traditional art, like drawing, painting and photography. A helpful exercise explained in the book is one that helps to light a head by breaking it down into basic planes, and placing lights to illuminate certain ones and put others in shadow, in order to bring out the detail of certain parts and leave others ambiguous.

Knowledge of how to use lighting and how to manipulate it to create specific effects is one of the most important factors in the success of an artwork. With effective lighting, the artist can sculpt the psychological response of their audience and direct their eye to the focal point of the piece, while guiding them in a visual journey through their art piece without the audience ever noticing their motive. *Light for Visual Artists* is a great reference tool to help artists master the use of lighting in artistic pieces.



COURTESY OF LAURENCE KING PUBLISHING

Cover art of *Light for Visual Artist*.



MOVIE REVIEW

An invitation to wonder

Director Terrence Malick's new drama about love, loss, and faith

COURTESY OF MAGNOLIA PICTURES

Rachel McAdams and Ben Affleck in *To The Wonder*.

By Carolyn Zhang

STAFF WRITER

In director Terrence Malick's latest project, we follow the relationship between Marina, a young Frenchwoman, (Olga Kurylenko) and Neil, her American boyfriend (Ben Affleck) from Paris to Oklahoma. Their intensely passionate love struggles against the frustration and isolation that accompanies Marina's relocation. When Marina moves back to France, Neil reconnects with a childhood flame (Rachel McAdams), whose own experiences with love and loss add another layer of solemnity and sorrow to the narration. Along the way, we briefly glimpse into the lonely life of their local priest in Oklahoma, Father Quintana (Javier Bardem), who currently struggles with a crisis of faith. Their intertwined stories create a heavy yet inspiring narrative on life, love, and God.

Malick uses the deliberately thin story as a light framework for presenting an assortment of scenes that jump back and forth

in scale, between sweeping grandeur and intense intimacy. Too frequently do characters twirl in open fields, kiss each others' necks, or stare moodily out their windows. The beautifully-framed shots are intended to evoke emotions or the passage of time, rather than directly express any sort of message. Malick's skill at visual beauty is on full display here; even when the plot grinds to a halt two-thirds of the way through, the mesmerising visuals save the movie from falling apart before the story picks up again.

We don't see the characters talk that much, and if they do, the audio is often replaced with orchestral music. Instead, they communicate with the audience via voiceover (primarily Kurylenko's), with thoughts that are sometimes poetic and sometimes overly grandiose. Rarely do characters directly address the events unfolding before the audience's eyes. The voiceovers resemble clips from an internal monologue and add context to the visuals or frame them in a different way. Pervasive throughout the film is the sense that we are outsiders in-

truding upon deeply private matters: all the actors speak in their native tongues, forcing viewers to read from subtitles. In one particularly notable scene, Kurylenko's character converses in French with a friend (Romina Mondello) who responds in Italian. Malick seems intent on making the audience feel excluded.

It's fitting that Terrence Malick is the most prominent name on the movie poster. Rarely are today's films so wholly dominated by the director's presence. Among the A-list actors, Affleck gets top billing, but even he feels like a prop. His narration is sparse, his portrayal restrained. Kurylenko, on the other hand, oscillates between ecstatic goofiness and catatonic depression. The film's structure — brief snatches and glimpses into strangers' lives — does not allow for the type of self-indulgent Oscar-bait performances that we've come to see from most serious dramas. It's actually quite refreshing.

Unlike most movies, which spoonfeed the audience with information, *To the Wonder* takes patience to fully appreciate, since

★★★★☆

To The Wonder

Directed by Terrence Malick

Starring Ben Affleck, Olga Kurylenko, and Rachel McAdams

Rated R

Now Playing

there's little dialogue and even less plot. Terrence Malick invites us to admire the wonders of the world and the people around us. Should you decline that invitation, the film is easy to mock; cynics will have a field day with the dramatic voiceovers and the elusive plot. For the patient, however, *To the Wonder* can be a rewarding and unique cinematic experience.



COURTESY OF MAGNOLIA PICTURES

Olga Kurylenko in *To The Wonder*.



COURTESY OF MAGNOLIA PICTURES

Olga Kurylenko and Ben Affleck in *To The Wonder*.

Angel's Share, from Page 22

tice system that expects released prisoners to reintegrate into society while leaving them in a structure — no job record means no job, and vice versa — that makes it all but impossible to do so. “Even the Army wouldn’t touch you,” Robbie is told.

But don't feel too bad (or for that matter, think too hard): our Robbie, wouldn't you know, is not only exceptionally reflective but also possesses a natural nose for fine scotch, so he rounds up his very own ramshackle brigade of foul-mouthed, enterprising ex-cons to steal some spectacularly expensive whiskey from a distillery in the Highlands. From there, the movie descends into straight slapstick heist: there are sheep, there are kilts, there are dumb policemen, there are the requisite almost-failures, and there are a good number of testicle jokes (there are kilts).

The plot is predictable, and the laughs are dumb, but the whole thing is kept aloft on good spirits and the movie stays watchable

thanks to its easy clip and likeable, fantastically-brogued cast. Paul Brannigan does an especially admirable job of sorting out the screenplay's bungled Robbie into something surprisingly close to a real character. If whiskey is the theme, *The Angel's Share* is like Canadian Club out of a plastic handle – sort of cheap and not exactly nuanced, but it somehow still feels pretty good.

★★★★★

The Angel's Share

Directed by Ken Loach

**Starring Paul Brannigan,
John Henshaw, and Gary
Maitland**

Not Rated

Now Playing



COURTESY OF JOSS BARRAT AND SUNDANCE SELECTS

(Left to right) Albert (Gary Maitland), Robbie (Paul Brannigan), and Rhino (William Ruane) with policemen.

MOVIE REVIEW

Crossing the Pacific on a raft

The legendary tale of a brave scientist is retold

By Alex McCarthy

STAFF WRITER

How far would you go to prove yourself?
What would you risk on your beliefs?

In this inspiring tale, based on real events, Thor Heyerdahl (Pål Sverre Hagen) is an archaeologist with a theory: that the Polynesian Islands were first populated by South Americans, thousands of years ago. In the face of a laughing scientific community, Thor and a crew of five friends set out

to cross the 4,300 miles of the unforgiving Pacific aboard a balsa wood raft built using ancient Peruvian technology. As they surrender their vessel and their lives to the currents and winds of the Pacific, Thor's theory is their only hope of ever seeing land again.

While lacking the action heroes and sci-fi space ships of many of our favorite movies, *Kon-Tiki* is a thoroughly inspirational piece of cinematography. The story of Kon-Tiki has been told in many ways before — in a novel, in scientific papers, and in a 1950 documen-

tary showing footage taken during the journey. Having read and watched all of these accounts, it is clear that none of these mediums are capable of capturing the human element of the story. In the form of a feature film, the story becomes less a tale of scientific undertaking, and more a tale of human spirit triumphing over adversity.

As an engineer, the plot particularly resonated with me — I derive great satisfaction in taking an idea from the drawing board to reality, and seeing it function as predicted. In the same vein as the film *Apollo 13*, this film demonstrates that in the world of science, with great risks come great rewards, if only one is daring and ingenious enough to take them.

The truth-based reality of this saga made the plot all the more gripping. Having recently watched *Life of Pi*, a fictional movie that also involves drifting at sea, I found the shark attacks and the raging storms in *Kon-Tiki* far more heart pounding. Not because the special effects were better (they weren't, but these days they're always pretty amazing), but because the lives at stake in *Kon-Tiki* were real lives. This simple fact added a level of engagement and immersion that it would be hard to achieve in any other way.

That being said, and having read the original recounts of the voyage, the film does dramatize the plot to some extent. I realize that this was probably necessary, as real life doesn't transcribe to a particularly easy-to-follow plot line. The first scenes that set up Thor's character are a bit forced, and once everyone is on the raft, the number of



Kon-Tiki

Directed by Joachim Rønning and Espen Sandberg

Starring Pål Sverre Hagen, Anders Baasmo Christiansen, and Gustaf Skarsgård

Rated PG-13

Now Playing



COURTESY OF THE WEINSTEIN COMPANY

Pål Hagen plays Norwegian explorer **Thor Heyerdahl** in ***Kon-Tiki***, a film about the 1947 expedition from South America to the Polynesian islands.



COURTESY OF THE WEINSTEIN COMPANY

A shark nears Thor's raft Kon-Tiki in the Pacific Ocean.

Team brings record to 15-1, remain at sixth in Northeast Region

Oh had little difficulty defeating Siegel at No. 4, winning 6-3, 6-3. Tymor C. Hamamasy '13 won his fourth match at No. 5 for the season when he defeated Michael Secular, 6-2, in the first set, dropped the second, 5-7, and came back to win the third one, 10-6. Classmate Brian K. Oldfield '13 easily won against Lubarsky at No. 6 with a score of 6-2, 6-3.

Wright earns three goals, Wacker has four draw controls in team's final home game

Despite the deficit, MIT continued to attack as Wright recorded back-to-back goals in a two-minute span and Schott brought

Wright finished with a hat-trick as Kane earned a pair of assists. Laura M. Wacker '13 led the way with four draw controls, followed by three from both Schott and Isabella D. DiDio '16. Molly E. McShane '13 posted three groundballs while Kennedy totaled six saves and four groundballs.

Women's openweight crew vs. Beanpot Regatta *TBD, Charles River*
Men's heavyweight crew vs. Trinity *8:30 a.m., Charles River*



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